

Flu, RSV, COVID-19 and other Respiratory Threats this Fall and Winter

November 29, 2022



Emergency Partners
Information Connection

Welcome!



Today's Agenda

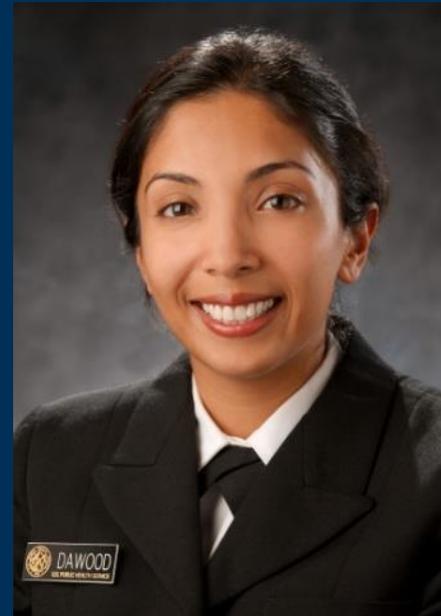
- Welcome and Introductions
- What We're Seeing with Respiratory Viruses (Surveillance)
- Flu
- RSV
- COVID-19
- Key Takeaways
- Q&A
- Conclusion



Today's Speakers



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Surveillance Update



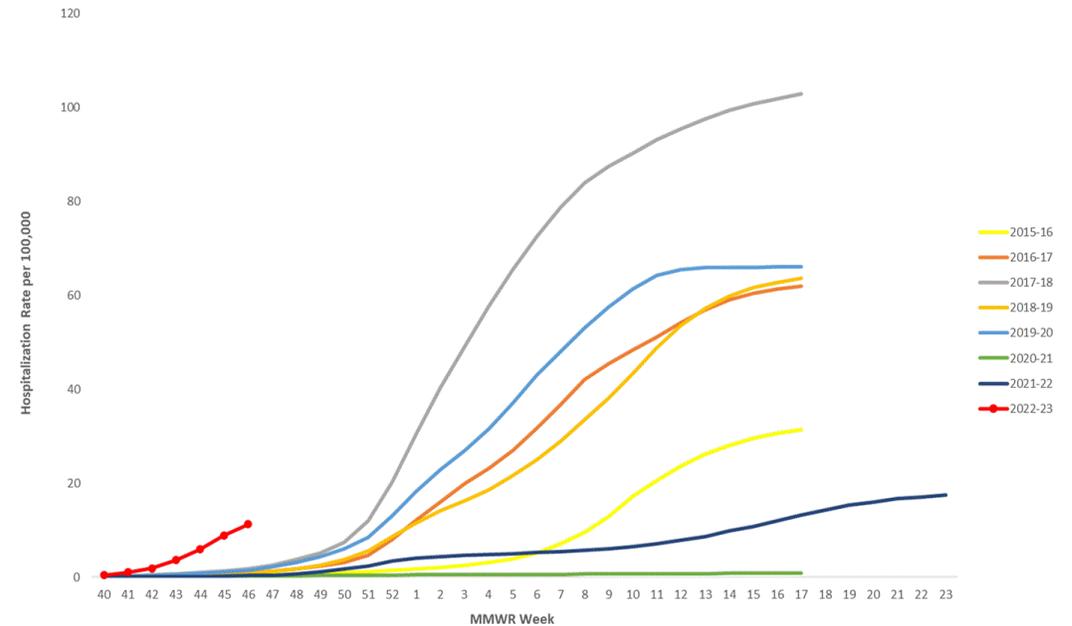
Respiratory Illnesses Caused by Viruses

- Many respiratory viruses circulate year-round in the United States, typically with more activity in fall and winter.
- During the past two years, viral respiratory illness activity has been impacted by the COVID-19 pandemic.
 - Circulation of other respiratory viruses besides SARS-CoV-2 (the virus that causes COVID-19) has often been atypical.
 - For example, there has been little circulation of flu, which is usually responsible for a large portion of respiratory disease in the fall and winter.
- Right now, the United States is experiencing a surge of non-SARS-CoV-2 respiratory viruses and SARS-CoV-2 viruses may continue to circulate at high level this fall and winter.

Flu Activity in the United States, Fall and Winter 2022-2023

- CDC tracks flu activity in the U.S. through a number of monitoring systems
- **Flu activity started early this year and is elevated across the country**
- Flu hospitalization rates are highest in adults 65 years and older, followed by children younger than 5 years old
 - **Flu hospitalization rates right now are higher than the rates at this time during every previous flu season since 2010-11**

Cumulative Rate of Laboratory-Confirmed Influenza Hospitalizations among cases of all ages, 2015-16 to 2022-23, MMWR Week 46



**In this figure, cumulative rates for all seasons prior to the 2022-23 season reflect end-of-season rates. For the 2022-23 season, rates for recent hospital admissions are subject to reporting delays. As hospitalization data are received each week, prior case counts and rates are updated accordingly.

2022-2023 U.S. Flu Season: Preliminary In-Season Burden Estimates

PRELIMINARY U.S. FLU BURDEN ESTIMATES

So far this season, CDC estimates there have been between:

**6.2 million -
14 million**



Flu illnesses

**3 million -
7 million**



Flu medical
visits

**53,000 -
110,000**



Flu
hospitalizations

**2,900 -
8,400**



Flu deaths

Based on data from Oct. 1, 2022, through Nov. 19, 2022

Because influenza surveillance does not capture all cases of flu, CDC provides these estimated ranges to better reflect the full burden of flu in the United States. These estimates are calculated using a mathematical model based on CDC's weekly influenza surveillance data and are preliminary.

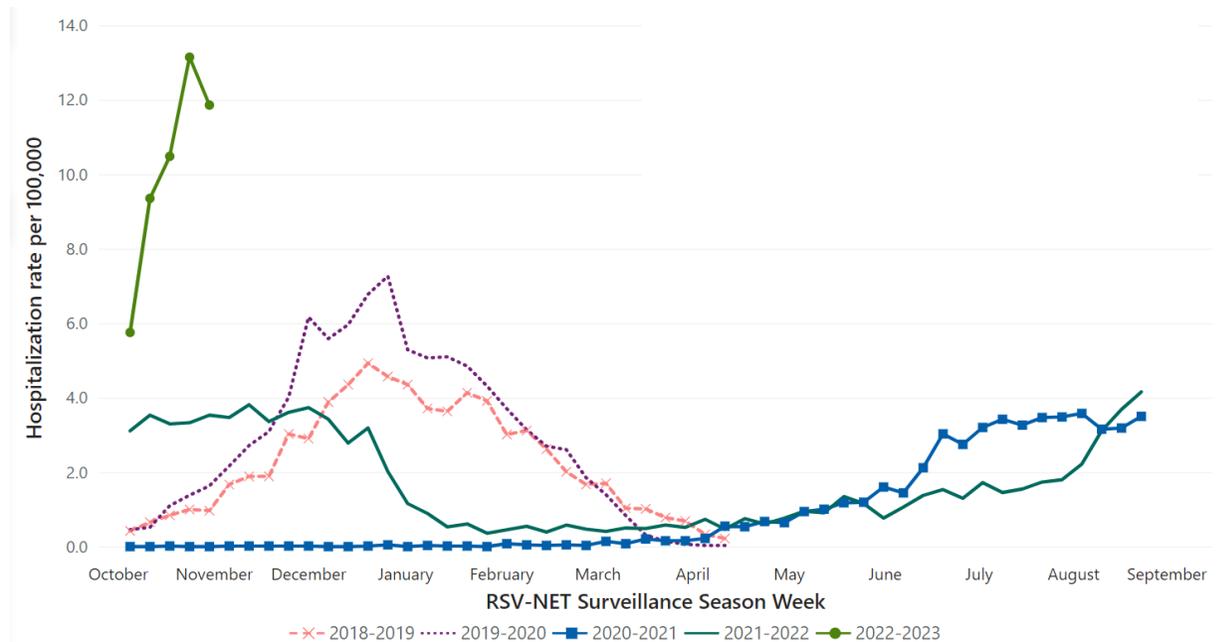


FluVIEW

RSV Activity in the United States this Fall and Winter



- Respiratory Syncytial Virus (RSV) activity remains elevated but varies by region.
- RSV laboratory test detections reported through the National Respiratory and Enteric Virus Surveillance System (NREVSS) are decreasing in the South and Southeast, and beginning to plateau in New England, Mid-Atlantic, and Midwest.
- Children 4 years and younger have the highest RSV-associated hospitalization rates.
- Compared to previous years, there are also more RSV-associated ED visits and hospitalizations among older children.



RSV is the leading cause of hospitalization among children less than 1 year of age in the U.S.



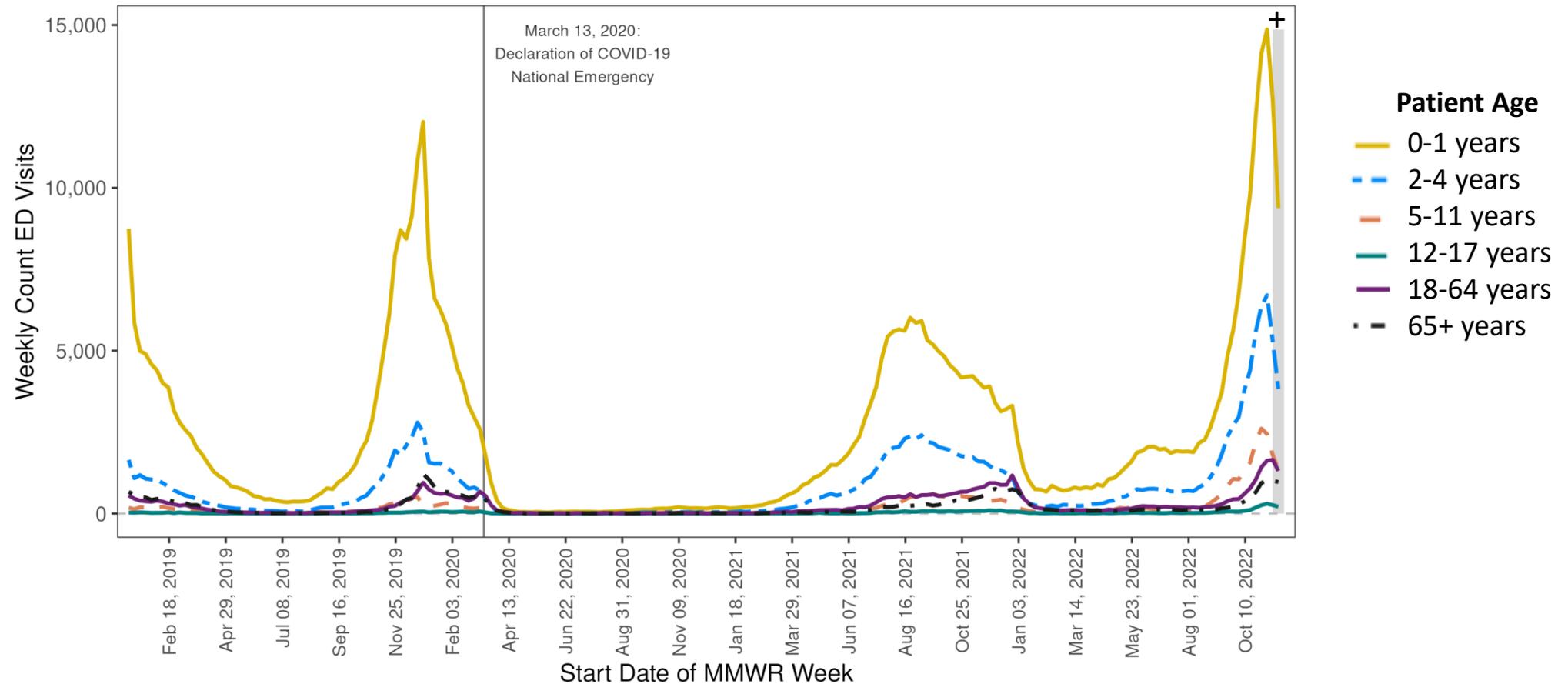
- RSV can infect the small airways and lungs, particularly in infants
- Most (68%) infants are infected in the first year of life and nearly all (97%) by age 2¹
- While most children hospitalized with RSV are previously healthy (79%), premature infants born at <30 weeks gestation are at higher risk of hospitalization²
- 2-3% of all infants will be hospitalized for RSV^{2,3}



Image: Goncalves et al. Critical Care Research and Practice 2012



Weekly U.S. Emergency Department (ED) Visits with Diagnosed RSV and RSV-like Illness*, Dec 30, 2018, to Nov 26, 2022, NSSP



+The most recent week of data may be incomplete

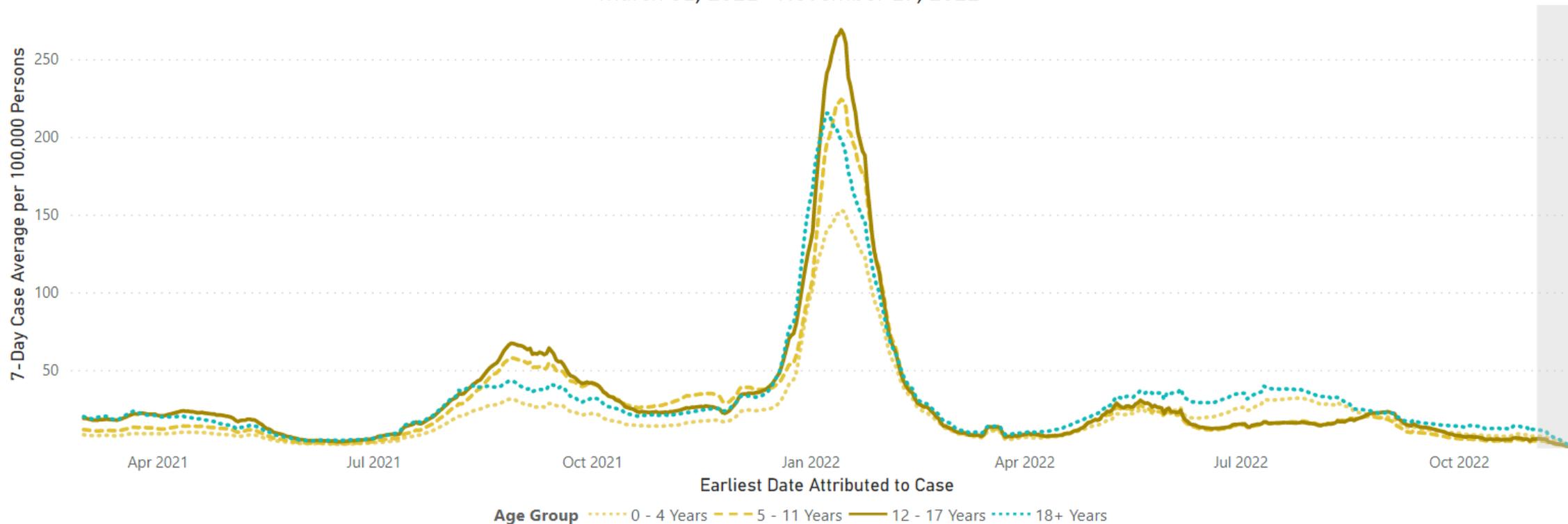
*CDC Respiratory Syncytial Virus v1 definition includes visits with RSV, bronchiolitis, or syncytial virus in the chief complaint and visits with diagnosed RSV. Counts limited to the subset of NSSP facilities with consistent reporting to NSSP and with high quality diagnosis codes throughout the time period.

COVID-19 Cases per 100k Among Children & Adults, March 1, 2021, to November 17, 2022



Average Daily Rates of Cases Among Children and Adults by Age Group

March 01, 2021 - November 17, 2022



Potential two-week delay in case reporting to CDC denoted by gray bar. Case date is based on the earliest of the clinical date (related to illness or specimen collection and chosen by a defined hierarchy) and the date received by CDC.

The CDC case level data capture 94.5% of aggregate case surveillance data shared by public health jurisdictions with CDC; some jurisdictions have not reported consistently during all or part of this time frame. Age was missing for 0.9% of cases.

Last Updated: Nov 18, 2022

Source: CDC COVID-19 Case Line-Level Data, 2019 US Census, HHS Protect; Visualization: Data-on-Call and CDC CPR DEO Situational Awareness Public Health Science Team

Data are Provisional Until Officially Released by the CDC - For Internal Use Only (FIUO) - For Official Use Only (FOUO) - Sensitive But Unclassified (SBU) - Not for Further Distribution

Respiratory Disease Surveillance Summary

- We continue to see a national increase in pediatric respiratory illness, and nationally we remain at winter peak levels.
- For RSV, some HHS regions (Regions 4, 3, and 6) are seeing decreased test positivity and may have peaked.
- Early increases in seasonal influenza have been reported in most regions of the US, with the highest levels of activity in the Southcentral and Southeast regions of the country

Increased Respiratory Virus Activity, Especially Among Children, Early in the 2022-2023 Fall and Winter

[Print](#)



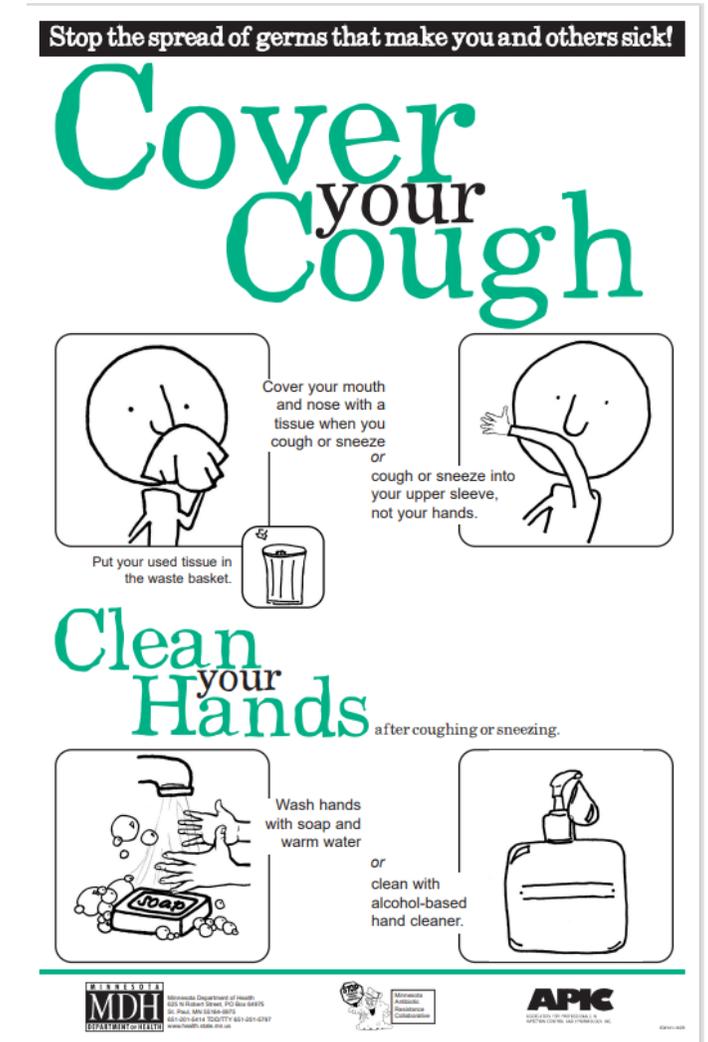
Distributed via the CDC Health Alert Network
November 04, 2022, 3:30 PM ET
CDCHAN-00479

Prevention



Take Everyday Preventive Actions to Stop the Spread of Germs

- These are “common sense” preventive measures:
 - ✓ avoiding people who are sick
 - ✓ staying home when you are sick
 - ✓ covering your coughs and sneezes
 - ✓ washing your hands for at least 20 seconds with soap and water
- Layering prevention strategies can help prevent severe illness and reduce the potential for strain on the healthcare system
 - ✓ stay up to date on recommended vaccines
 - ✓ improve ventilation in your home, office, schools and other settings
 - ✓ wear a mask with the best fit, protection, and comfort for you



RSV Prevention

- For RSV, prevention primarily means practicing basic hygiene.
- There are no vaccines currently available to prevent RSV, although multiple products are in late stages of clinical development.



COVID-19 Prevention

- For COVID-19, prevention means getting and staying up to date on your COVID-19 vaccines.
 - CDC recommends that everyone who is eligible be vaccinated and get a recommended booster to stay up to date on their COVID-19 vaccines, especially people with weakened immune systems.
- Preventing COVID-19 also means seeking treatment if you think you are sick and practicing everyday preventive actions that also work for other respiratory diseases, like flu and RSV.



CORONAVIRUS DISEASE 2019
(COVID-19)

You can help prevent the spread of respiratory illnesses with these actions:

- Avoid close contact with people who are sick.
- Avoid touching your eyes, nose & mouth.
- Practice social distancing by putting space between yourself & others.
- Wash hands often with soap & water for at least 20 seconds.

 [cdc.gov/coronavirus](https://www.cdc.gov/coronavirus)

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COVID-19 Vaccine Recommendations

- COVID-19 primary series vaccination is recommended for everyone ages 6 months and older in the United States for the prevention of COVID-19.
 - This includes people both with and without underlying medical conditions.
- For primary series vaccination, Moderna, Pfizer-BioNTech, and Novavax COVID-19 vaccines are recommended.
 - Janssen COVID-19 Vaccine should only be used in limited situations.

COVID-19 Vaccine Recommendations, continued

- People ages 5 years and older are recommended to receive 1 bivalent mRNA booster dose after completion of any FDA-approved or FDA-authorized monovalent primary series or previously received monovalent booster dose(s).
- Monovalent mRNA vaccines are no longer authorized as booster doses.

COVID-19 Vaccine Coverage

- As of November 16, 2022, approximately 35.3 million people ages 5 years and older had received an updated (bivalent) booster dose, or about 11.3% of the U.S. population ages 5 years and older.
- Completion of a primary series among children remains low: 2.5% in <2 year olds, 4.3% in 2-4 year olds, and 32.0% in 5-11 year olds.



Fight Flu with Flu Vaccination

- Flu vaccination is the **best** way to prevent flu.
- Studies show that getting vaccinated reduces your risk* of
 - flu illnesses
 - doctor's visits
 - flu-related hospitalizations
 - life-threatening flu illness
 - death
- Flu vaccines can be safely given at the same time as COVID-19 vaccines



Who Should Get a Flu Vaccine?

- Routine annual flu vaccination is recommended for **all people ≥ 6 months of age** who do not have contraindications
- Vaccination is recommended for all but is especially important for some groups **at higher risk of flu complications**
 - Children < 5 years of age
 - Adults ≥ 50 years of age
 - Pregnant people
 - People with chronic medical conditions (for example, heart disease and diabetes)
 - Close contacts and caregivers of the groups listed above



There is Still Time to Get a Flu Vaccine this Season

- **Only about 1 in 3 children in the US have received this season's flu vaccine as of Nov 5**
 - Vaccination coverage for children is similar to the estimate from this time last season, but about 5 percentage points lower compared to the same time in 2020
- **Only about 1 in 3 pregnant people have received this season's flu vaccine**
 - Vaccination coverage for pregnant people is about 12 points lower this season compared to the same time during the 2021-2022 flu season and more than 21 percentage points lower compared to the same time in 2020
- **For adults, 4 million fewer doses of flu vaccine** have been given at doctor's offices and pharmacies compared to this time last flu season



Signs & Symptoms



Signs and Symptoms of Flu

- Flu can cause mild to severe illness, and at times can lead to death. Flu symptoms usually come on suddenly. People who have flu often feel some or all of these symptoms:
 - fever* or feeling feverish/chills
 - cough
 - sore throat
 - runny or stuffy nose
 - muscle or body aches
 - headaches
 - fatigue (tiredness)
 - some people may have vomiting and diarrhea, though this is more common in children than adults.
 - *It's important to note that not everyone with flu will have a fever.



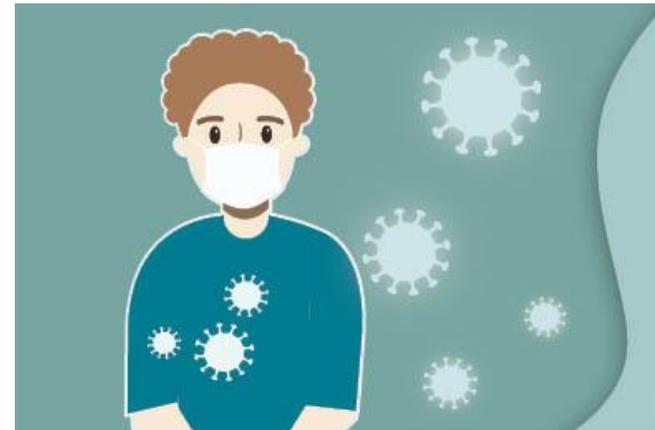
Signs and Symptoms of RSV

- Children infected with RSV usually show symptoms within 4 to 6 days after getting infected. Symptoms of RSV infection usually include:
 - Runny nose
 - Decrease in appetite
 - Coughing
 - Sneezing
 - Fever
 - Wheezing
- These symptoms usually appear in stages and not all at once. In very young infants with RSV, the only symptoms may be irritability, decreased activity, and breathing difficulties.



Signs and Symptoms of COVID-19

- People with COVID-19 have had a wide range of symptoms reported – ranging from mild symptoms to severe illness.
- Symptoms may appear 2-14 days after exposure to the virus, and may include:
 - Fever or chills
 - Cough
 - Shortness of breath or difficulty breathing
 - Fatigue
 - Muscle or body aches
 - Headache
 - New loss of taste or smell
 - Sore throat
 - Congestion or runny nose
 - Nausea or vomiting
 - Diarrhea
- Symptoms may change with new COVID-19 variants and can vary depending on vaccination status.
- Older adults and people who have underlying medical conditions like heart or lung disease or diabetes are at higher risk for getting very sick from COVID-19.



When to Seek Emergency Medical Attention for COVID-19

- Look for emergency warning signs for COVID 19:
 - Trouble breathing
 - Persistent pain or pressure in the chest
 - New confusion
 - Inability to wake or stay awake
 - Pale, gray, or blue-colored skin, lips, or nail beds, depending on skin tone
 - If someone is showing any of these signs, call 911 or call ahead to your local emergency facility. Notify the operator that you are seeking care for someone who has or may have COVID-19.



Emergency Warning Signs in Children

- Children experiencing these warning signs should receive medical care right away:
 - Fast breathing or trouble breathing
 - Bluish lips or face
 - Ribs pulling in with each breath
 - Chest pain
 - Severe muscle pain (child refuses to walk)
 - Dehydration (no urine for 8 hours, dry mouth, no tears when crying)
 - Not alert or interacting when awake
 - Seizures
 - Fever above 104°F
- In children younger than 12 weeks, any fever
- Fever or cough that improve but then return or worsen
- Worsening of chronic medical conditions.
- These lists are not all-inclusive. Please consult your medical provider for any other symptom that is severe or concerning.

Emergency Warning Signs in Adults

- People experiencing these warning signs should obtain medical care right away:
 - Difficulty breathing or shortness of breath
 - Persistent pain or pressure in the chest or abdomen
 - Persistent dizziness, confusion, inability to arouse
 - Seizures
 - Not urinating
 - Severe muscle pain
 - Severe weakness or unsteadiness
 - Fever or cough that improve but then return or worsen
- Worsening of chronic medical conditions.
- These lists are not all-inclusive. Please consult your medical provider for any other symptom that is severe or concerning.



When is Testing for Respiratory Viruses Needed?

- You cannot tell the difference between flu, COVID-19, and other respiratory illnesses caused by viruses just by looking at the symptoms alone because their symptoms overlap
 - **Talk with your health care professional about whether testing is needed** if you have respiratory illness
 - Testing can help to identify the illness and confirm a diagnosis
 - **Identifying the illness is particularly important for people at increased risk of severe illness and people who are sick enough to be hospitalized** because there are treatment options for some respiratory virus infections such as flu and COVID-19



Treatment



Flu Treatment

- If you get sick with flu, flu antiviral drugs may be a treatment option.
 - Antiviral drugs work best when started early, such as one to two days after your flu symptoms begin.
- CDC recommends prompt treatment with influenza antiviral drugs in patients who are at higher risk of severe flu illness or patients who are very sick (for example, hospitalized).
- If you are in a higher-risk group and develop flu symptoms, it's best for you to contact your doctor early in your illness. Remind them about your higher-risk status for flu.



RSV Treatment and Care

- There is no specific treatment for RSV infection, though most RSV infections improve on their own in a week or two.
- Take steps to relieve symptoms:
 - Manage fever and pain with over-the-counter fever reducers and pain relievers.
 - Drink enough fluids.
 - Talk to your healthcare provider before giving your child nonprescription cold medicines.



Call a healthcare professional if you or your child is having difficulty breathing, not drinking enough fluids, or experiencing worsening symptoms.

COVID-19 Treatment and Care

- If you test positive for COVID-19 and are more likely to get very sick, treatments are available that can reduce your chances of hospitalization and death.
 - Treatments include antivirals and monoclonal antibodies.
- Don't delay: Treatment must be started within days after you first develop symptoms to be effective.
- Other medications can help reduce symptoms and help you manage your illness.



Communications Resources



Flu Resources

- CDC encourages all its partners to continue to promote the importance of vaccination, especially over the next few weeks, given the early flu activity, lower vaccination coverage rates, and approaching holiday season.
- CDC has a [digital media toolkit](#) available on our website, with social media messages, print-ready materials, videos, and more that can be used by our partners to promote flu vaccination.



FIGHT FLU



DON'T LET IT STOP YOU.

Every year flu puts hundreds of thousands of people in the hospital. A flu vaccine gives you extra protection to fight flu.



**TALK TO A DOCTOR OR
PHARMACIST ABOUT
GETTING A FLU SHOT.**

#FIGHT FLU



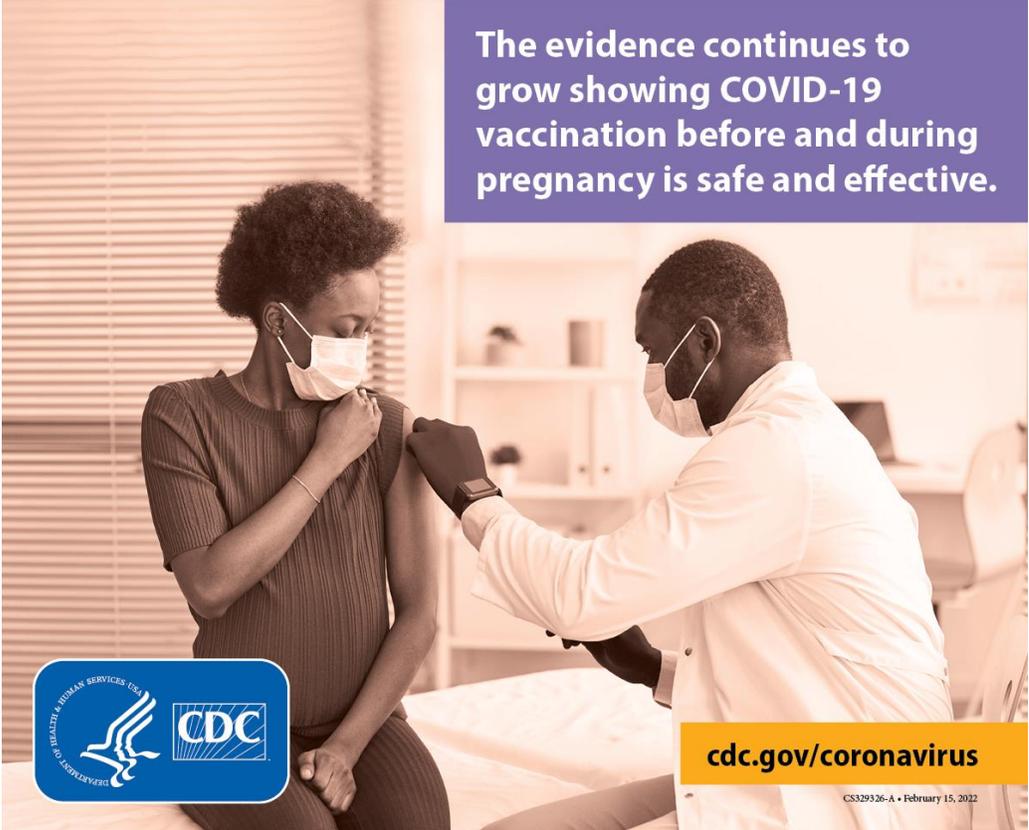
RSV Resources

- CDC encourages all its partners to continue to promote the importance of RSV prevention, especially over the next few weeks, given the increased activity and approaching holiday season.
- CDC has [resources](#) available on our website, print-ready materials, a podcast, infographics, and more that can be used by our partners to promote flu vaccination.



COVID-19 Resources

- CDC encourages all its partners to continue to promote the importance of vaccination, especially over the next few weeks, given the continued COVID-19 activity, lower vaccination coverage rates, and approaching holiday season.
- CDC has [several resources](#) available on our website, with social media messages, print-ready materials, videos, and more that can be used by our partners to promote COVID-19 vaccination and prevention.



Getting a COVID-19 vaccine can protect you from severe illness from COVID-19.

The evidence continues to grow showing COVID-19 vaccination before and during pregnancy is safe and effective.



cdc.gov/coronavirus

CS329326-A • February 15, 2022

Q&A



Data Sources

Unified Hospital Dataset

- Includes all acute care hospitals in United States
- Data are collected as aggregate daily number of admissions among patients 0–17 years that does not allow for finer age disaggregation

Coronavirus Disease 2019-Associated Hospitalization Surveillance Network (COVID-NET)

- Population-based surveillance system that collects data on laboratory-confirmed COVID-19-associated hospitalizations among children and adults
- Network of >250 acute-care hospitals in 14 states
- Updated weekly (Wednesdays, with data posted publicly every Thursday)

Respiratory Syncytial Virus (RSV) Hospitalization Surveillance Network (RSV-NET)

- Population-based surveillance system that collects data on laboratory-confirmed COVID-19-associated hospitalizations among children and adults
- Collects and reports data from acute-care hospitals across 75 counties in 12 states
- Typical surveillance season is October 1–April 30. Surveillance extended into summer 2021 and 2022 due to atypical increases in rates of hospitalization

Data Sources – 2 of 3

New Vaccine Surveillance Network (NVSN)

- Active, population-based surveillance network at 7 pediatric medical centers
- Year-round acute respiratory illness surveillance in inpatients, ED, and outpatient clinics
- Participants tested for multiple respiratory viruses by multiplex PCR assays

National Syndromic Surveillance Program (NSSP)

- Electronic patient encounter data received from emergency departments, urgent and ambulatory care centers, and laboratories
- Tracks symptoms, signs and clinical diagnoses of emergency department patients in near real-time
- ARI definition pulls only from discharge diagnoses, including diagnosed RSV. RSV definition pulls from both chief complaint text direct mentions of RSV (included if the record says "RSV," "bronchiolitis" or "syncytial virus.") and the diagnosis.

Influenza Hospitalization Surveillance Network (FluSurv-NET)

- Population-based surveillance system that collects data on laboratory-confirmed influenza-associated hospitalizations among children and adults through a network of acute care hospitals in 14 states.
- FluSurv-NET also provides demographic and clinical information including age, sex and underlying medical conditions among persons hospitalized with flu. Data gathered are used to estimate age-specific hospitalization rates on a weekly basis and to describe characteristics of persons hospitalized with influenza illness.



Data Sources – 3 of 3

National Respiratory and Enteric Virus Surveillance System (NREVSS)

- Passive, laboratory-based surveillance from ~300 commercial, hospital, and state/local public health laboratories
- Weekly reporting of total tests (PCR, antigen, etc.) performed and positive tests by virus
- Testing is clinician-directed and includes patients of all ages

To Learn More

- [Emergency Partners Information Connection \(EPIC\)](#)
 - [EPIC Newsletters](#)
- [Key Facts About Influenza \(Flu\)](#)
 - [Who Needs a Flu Vaccine](#)
- [Coronavirus Disease 2019 \(COVID-19\)](#)
 - [Stay Up to Date with COVID-19 Vaccines Including Boosters](#)
- [RSV \(Respiratory Syncytial Virus\)](#)

This webinar will be posted in 8-10 days, and slides are now available:

[Webinar November 29, 2022 - Flu, RSV, COVID-19 and other Respiratory Threats this Fall and Winter](#)

Thank you, and happy holidays from the EPIC team

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For more information, contact CDC
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TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

